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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,119	06/03/1999	PHILIP P. CARVEY	AVI99-02	2433

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EXAMINER

SINGH, DALZID E

ART UNIT PAPER NUMBER

2633

DATE MAILED: 04/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/325,119

Applicant(s)

CARVEY ET AL.

Examiner

Dalzid Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 9,10,21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The term "...unbalanced periods in response to imbalance traffic..." in claims 1 and 13 is a relative terms which renders the claim indefinite. The term "...unbalanced periods in response to imbalance traffic..." is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Furthermore, are the terms "imbalance" and "unbalance" the same?

Claim Rejections - 35 USC § 103

3. Claims 1-5, 11-17, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munter (US Patent No. 5,475,679).

Regarding claims 1 and 13, Munter discloses an ATM switch including a space switch core (92) as shown in Fig. 8 comprising:

- a plurality of optical inputs (see col. 7, lines 4-9);
- a plurality of optical outputs (see col. 7, lines 4-9);
- a plurality of reordering units (i.e., buffer modules shown in Figs. 1-3) that rearrange the order of data units within data streams (see col. 2, lines 47-60, col. 4, lines 40-66, col. 5, lines 28-66).

Munter differs from these claims in that Munter does not specifically disclose the switch operates with a schedule. However, the buffers as disclose by Munter organize

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data signal and prioritize those data signals or schedule the transmission of data cell (see col. 4, lines 61-66), therefore since the buffer schedules data cell transmission, it would have been obvious that the switch correspondingly operates with the scheduled data cell in order to avoid collision of data signals.

Regarding claims 2, 5, 14 and 17, the switch of Munter as disclosed above performs switching function wherein a plurality of inputs is connected to a plurality of outputs. It would have been obvious to call the switch of Munter as a crossbar or multi-stage interconnection since these switches have the same functionality, which is to transfer a plurality of data signal from various points (sources) of the input to various points (destination) of the output in order to correctly route data signals from source to destination.

Regarding claims 3, 4, 15 and 16, as shown in Fig. 3, Munter shows input buffer and output buffer (reordering units), since both the input buffer and output buffer are the same (see col. 4, lines 22-39), therefore the input and output data are reorganized in order to avoid collision of data signals.

Regarding claims 11 and 23, Munter discloses a controller, which receives status of information to schedule transmission of cells (see col. 4, lines 55-66).

Regarding claims 12 and 24, Munter discloses buffer modules (i.e., time-slot interchange) as discussed in claim 1, and further discloses a controller which set up connection to schedule transmission of data cells (see col. 4, lines 40-66) to the switch.

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4. Claims 6-8 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munter (US Patent No. 5,475,679) in view of Shively (US Patent No. 5,978,370).

Regarding claims 6 and 18, Munter differs from these claims in that Munter does not specifically call the reordering unit as a time-slot interchanger. The reordering units (i.e., the buffers as discussed above) of Munter reorganize data signals or cells. However, Shively teaches the use of time-slot interchanger (see col. 9, lines 9-30). Since the use of time-slot interchanger is well known, as evidenced by Shively, therefore it would have been obvious to an artisan of ordinary skill in the art to provide a time-slot interchanger to the buffer of Munter in order to synchronize and adjust the timing of the data cell and the switch.

Regarding claims 7 and 19, as to the combination of Munter and Shively, Munter further discloses a FIFO system (see col. 4, lines 42-48).

Regarding claims 8 and 20, the FIFO of Munter as discussed above is implemented as buffers in dual port memory (see col. 5, lines 29-37).

5. Claims 1, 13 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (US Patent No. 5,469,284).

Regarding claims 1, 13 and 25 Haas discloses an optical packet switch comprising:

a plurality of optical inputs (as shown in Fig. 8, Haas discloses a plurality of optical inputs);

a plurality of optical outputs (as shown in Fig. 8, Haas discloses a plurality of optical outputs);

an optical switch that operate with a schedule (as shown in Figs. 2 and 3, the optical switch of Haas operate with a schedule, see col. 3, lines 1-9, 52-56 and col. 2, lines 1-14).

Haas differs from these claims in that Haas does not specifically disclose a reordering units. However, since data is organized in the scheduling stage, therefore it would have been obvious that the scheduling stage include a reordering unit in order to arrange data signals to avoid data collisions.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shiragaki (US Patent No. 5,457,556) is cited to show an optical cross-connect system with space and wavelength division switching stages for minimizing faults recovery procedures.

Miles et al (US Patent No. 4,485,467) is cited to show a digital information switch matrix with on-line/off-line diagnostic features.

Agrawal et al (US 5,093,920) is cited to show a programmable processing elements interconnected by a communication network including field operation unit for performing field operations.

Wallmeier (US Patent No. 5,748,614) is cited to show a method for scheduling message cells leaving an ATM node.

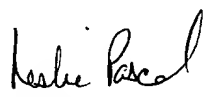
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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is 703-306-5619. The examiner can normally be reached on Mon-Fri 8am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

DS
March 18, 2002


LESLIE PASCAL
PRIMARY EXAMINER